

Nefitel (W. B.)

25

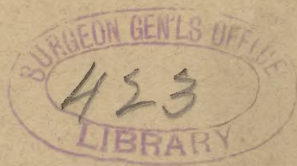
2430

L. S. Hyslop

THE TREATMENT
OF
SOME FORMS OF DYSPEPSIA

(CHRONIC CATARRH OF THE STOMACH).

BY
WILLIAM B. NEFTEL, M.D.



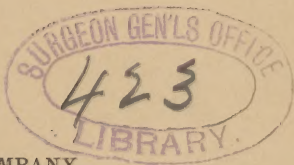
THE TREATMENT
OF
SOME FORMS OF DYSPEPSIA

(CHRONIC CATARRH OF THE STOMACH).

BY
WM. B. NEFTTEL, M.D.,
NEW YORK.

Reprinted from THE MEDICAL RECORD, June 8, 1878.

NEW YORK:
TROW'S PRINTING & BOOKBINDING COMPANY,
205-213 EAST 12TH STREET.
1878.



THE TREATMENT OF SOME FORMS OF DYSPEPSIA (CHRONIC CATARRH OF THE STOMACH).

DURING the last ten years I have had the opportunity of observing a considerable number of patients affected with chronic catarrh of the stomach of long standing. They were referred to me principally on account of the accompanying intense gastralgic pains and the very unpleasant cerebral symptoms. In a number of cases these latter symptoms assumed so predominant a character in the history of the disease, that some doubt was entertained as to their true significance—whether it was not the brain symptoms which constituted the primary affection, and the dyspepsia a secondary symptom, instead of vice versa. I could, however, almost always convince myself that the chronic gastric catarrh was the primary affection that brought on the secondary cerebral symptoms, because it existed long (sometimes years) before the appearance of the cerebral symptoms, which latter commenced in a mild, scarcely noticeable form, and only gradually became more serious, and generally disappeared with the cure of the catarrh.

In the majority of cases that have come under my observation, the disease was in an advanced stage, and the patients presented a high degree of anæmia and emaciation. They complained of general prostration and of inability to work intellectually, of loss

of memory, sometimes of dimness of vision, without any objective cause, occasionally of tinnitus aurium and frequent faintness; more especially of vertigo, that rendered them timid in walking alone. They almost always felt chilly, and complained of a sensation of fulness and a constant uneasy feeling in the epigastrium. This uneasiness increased to intense pain several times in the twenty-four hours, generally after meals, and especially during the night, thus interfering with sleep, which was sometimes interrupted by the pain at regular hours. They have had frequent eructations, nausea, and sometimes vomiting, and complained of complete want of appetite, notwithstanding their extreme weakness and anæmia. The bowels were costive, the pulse small, the heart's action feeble, the respiration slow, the temperature not increased; rather subnormal, the skin pale and dry, the abdomen tender and distended in the epigastrium.

On examination of the contents of the stomach (ejected by vomiting, or removed with the stomach-pump), I found the reaction sometimes neutral, sometimes even slightly alkaline; and when the reaction was acid, it was not owing so much to the presence of free hydrochloric acid as to that of lactic, butyric, acetic, and other volatile fatty acids. Under the microscope I almost always found numerous *sarcinæ* *ventriculi* and other microscopic fungi; the gas escaping with the eructations was a mixture of hydrogen, carbonic acid, and air.

The gases, the acids, the fungi, etc., leave no doubt that the stomach of these patients is the seat of a morbid fermentation. The food, instead of undergoing the normal digestion under the influence of the gastric juice (which in the normal condition contains free hydrochloric acid), is undergoing fermenta-

tion, with evolution of gases and development of fatty acids, of which especially the butyric acid acts upon the stomach as an acute irritant. Hence the distention of the stomach, the gastralgic pains that increase during the height of the fermentation (some time after the introduction of food), and all the other local and general consequences which always accompany chronic gastric catarrh. The permanent dilatation of the stomach (gastrectasia) owes its origin to the paretic condition of its muscular coat, and this causes stagnation of the food within the stomach, the relaxed walls of which are not able to forward the contents by their impaired contractions. On the other hand, this stagnation of the food promotes and perpetuates the fermentation, the vomiting, the constipation, etc. The general consequences produced by the gastric catarrh are chiefly due to the impaired nutrition of the whole system, and manifest themselves as general emaciation and anæmia, especially that of the brain.

Generally the patients who came under my care had tried before a great variety of therapeutic methods. As a rule, it was first attempted to control the gastralgic pains with alcoholic stimulants, spirits of camphor, etc., and which in the earliest stages of the disease would relieve them temporarily, but after a while lost entirely the power of producing the desired effect. Anodynes were then resorted to, with a similar result. Of medicinal remedies, pepsine, bitters, nuxvomica, strychnia, bismuth, alkalies, purgatives, etc., had their turn without avail, and of external applications, different plasters, hydropathy, rubbing, electricity in the form of electrical baths, general faradization, or central galvanization. In addition to all this, special kinds of movement and lift cures, and also different mineral waters and milk diet were vainly tried.

Notwithstanding all these remedies and methods, the disease continued to make steady progress, the dilatation of the stomach increasing sometimes to an enormous extent, the gastralgic pains becoming incessant, with frequent exacerbations, depriving the patient of sleep, and the emaciation, anæmia, and general prostration reaching the highest degree. But, long before the disease advanced to that stage, the patients generally came to the conclusion that they must avoid some articles of food which in their experience increased the eructations, pain, nausea, and vomiting, and therefore at first gave up eating those vegetables which produce flatulence, then a great many other articles, gradually reducing the variety of their diet, and living exclusively on Graham bread, oat meal, mutton-chops and beefsteak. Water was also avoided as much as possible, on the supposition that it dilutes the gastric juice, and hence increases the indigestion. At last even this simple diet augmented their suffering and had to be changed for a diet amounting to slow starvation, viz.: rice-water, sometimes rice boiled with milk, and the juice of meat. The only temporary relief during the attacks they found in hot water taken in large quantities. These patients, therefore, had to resort to hot water and the starvation diet to make their life at all bearable. In this stage of the disease the condition of the patients seemed so alarming that doubts would arise as to the correctness of the diagnosis. Indeed, the cachectic appearance of the sufferers would warrant the suspicion that a cancerous affection of some abdominal organ, or cirrhosis of the liver existed, though neither a tumor nor any characteristic symptom of cirrhosis could be detected by the physical examination.

As regards the etiology and diagnosis of dyspepsia, I shall limit myself to a few remarks. I can state

from my own observation that all forms of dyspepsia are incomparably more frequent in this country than in Europe. The majority of all the patients who have come under my care in this country have had one or another form of chronic dyspepsia; even children seem not to be entirely exempt from it, and often exhibit an apparently inherited disposition to the disease. To explain these facts it is only necessary to take into consideration the history of this country and the mode of living of the people. The early colonists had no means of regulating their diet or properly preparing their food, two circumstances which constitute the principal causes of dyspepsia. The immigrants of the present day, the pioneers settling in the far West, labor under the same disadvantages. As a general rule, the culinary art is not yet sufficiently cultivated here; and we often find, even in some hotels, abundant and excellent provisions spoiled by bad cooking. In the cities, the busy life of all classes scarcely allows time for meals, so that people get into the habit of eating in a hurried way, and set the example to their children. Thus the food does not undergo the preliminary changes requisite for a prompt and thorough digestion, viz., mastication and intimate mixture with the saliva. The function of the latter must not be underrated, the diastatic property of ptyalin and the excitation by the alkaline saliva of an abundant secretion of healthy gastric juice being most favorable for the digestion. Moreover, some incorrect notions are prevalent among the public at large, which formerly were entertained by the profession, but are now abandoned owing to our advanced knowledge. Many people think that water ought not to be taken during digestion, because it dilutes the gastric juice; and this rule is most religiously observed by nearly all dyspeptics. And yet, experiments with

artificial gastric juice show that food is easily digested, provided there is free hydrochloric acid and plenty of water, a minimum quantity of pepsine being sufficient to digest large quantities of food. Another fallacy, fortunately now losing ground, is the opinion that alcoholic stimulants are useful for digestion, which in reality are exactly the reverse; they disturb, retard, and check digestion, and by irritating the stomach constitute one of the most frequent causes of gastric catarrh. Again, some think that it is very healthy to eat in small quantities, but often. In exceptional cases, in persons with an impaired digestion, where only a small quantity can be digested at a time, we are obliged to give food often in order to support life. As a rule, however, sufficient time is requisite for the food to be thoroughly digested, and it is injurious to add perfectly undigested food to that which is in the process, perhaps in an advanced stage, of digestion. We know, from physiological researches, that by the gastric juice the albuminous substances of the food are transformed into soluble modifications—peptones—which are readily absorbed. But, until the peptones are removed by dialysis (absorbed), no new albumen can be thoroughly peptonized, nor can the peptones be absorbed in the presence of unmodified albuminous substances. It is, therefore, much better to take the necessary quantity of food at long intervals (three or four times in 24 hours), and entirely to abstain from eating anything between the meals.

The diagnosis of chronic catarrh of the stomach may offer some difficulty only in its advanced stages. One of the easiest means to ascertain the extent of dilatation of the stomach is to introduce into it effervescent substances (bicarbonate of soda and tartaric acid); the shape of the stomach is then made palpable

and even visible. The next thing to find is whether the dilatation depends on the gastric catarrh, or whether they are both symptoms of a stricture at the pyloric part of the stomach. This is sometimes exceedingly difficult to demonstrate, and we mostly have to be guided by the previous history of the case (ulcer of the stomach, etc.), or by the presence of a tumor. The microscopic examination of the contents of the stomach, the palpation of the abdomen, the absence of ascites, diarrhœa, etc., must be taken into consideration when making the differential diagnosis of chronic gastric catarrh, cirrhosis of the liver, amyloid degeneration of the bowels, etc. Chronic gastric catarrh is frequently mistaken for cancer of the stomach. I know of a case where an elderly person was considered by her physicians to be suffering from cancer, which, however, was not found at the post-mortem, though during life the patient exhibited all the symptoms of carcinoma ventriculi, except the presence of a tumor. It must be borne in mind that the most prominent symptoms of cancer of the stomach depend on the accompanying gastric catarrh, and may not exist at all without the latter.

After having made the diagnosis of chronic catarrh, I employed formerly the treatment introduced by Kussmaul.* It consists in the methodical use of the stomach-pump, by means of which, at certain intervals, the stomach is entirely emptied of the stagnated food and the accumulated products of fermentation, and washed out with a weak alkaline solution (soda-water, Vichy). The patients are then given nourishing and easily digestible food in gradually increasing quantities. They are much benefited by this method, and are often ultimately cured of the gastric catarrh;

* Kussmaul: Ueber die Behandlung der Magenweiterung. Deutsch. Arch. für klin. Medicin. Bd. VI., p. 455.

but it requires the constant and prolonged attendance of the physician, and is extremely tedious and unpleasant to both. I have now adopted methods equally efficient, and in some respects much more so, and presenting none of the disadvantages mentioned.

In the earliest stages of dyspepsia the regulation of the diet alone is almost sufficient to arrest its further development. In the treatment of gastric catarrh, our special attention has to be directed to the circumstance that such patients generally abstain from a great many wholesome and digestible articles of food, and are apt to resort to that form of dieting which, in reality, is slow starvation, and which, when prolonged, results in the impairment of nutrition of the most important organs. I therefore recommend to dyspeptics a variety of articles of food (of course, excluding such as are indigestible), and prefer to correct the unpleasant symptoms they may call forth. It is far better to keep up the general strength of the patients, and treat the gastric symptoms, than in avoiding these latter to produce general anæmia and emaciation. It is not difficult to correct the gastric symptoms in the first stages of the disease; an occasional dose of magnesia or rhubarb, sometimes both together, or a wineglass of some bitter water (Friedrichshall, Hunyadi, etc.), taken at bed-time, will often answer the purpose. Even pure water taken repeatedly, subdues the symptoms by washing, as it were, the stomach, and removing the accumulated products of the catarrh.

Experiments on animals with gastric fistula show that the introduction into the empty stomach of an alkali immediately excites an abundant secretion of gastric juice. I therefore advise dyspeptics to take Vichy water some time before their meals. About a

tumbler before breakfast, and a much smaller quantity before lunch and dinner, and also to drink as much pure water as they like during and after the meals.

It is advisable to rest awhile after meals, muscular or mental over-exertion being injurious, because the supply of blood is then diverted to the muscles or nervous centres, whereas during digestion the stomach ought to be in a state of congestion. Therefore, rest should be taken after the principal meals, even a little sleep, in order to afford the stomach the greatest amount of blood necessary for its increased activity. Infants and animals instinctively follow this rule. On the other hand, substances in a state of fermentation, or which readily undergo fermentation, like beer, sweet things, etc., ought to be avoided, as also those substances which the stomach, affected by catarrh, is apt to produce itself—acetic, lactic, and butyric acids. Therefore, vinegar, bad milk, and especially rancid butter and fatty substances must necessarily be avoided. Unfortunately, such patients are sometimes even advised to take exactly the above-mentioned acids (vinegar bitters, lactic acid, etc.), in the supposition that the gastric juice is acid and contains lactic acid. But the acid which in the free state is always present in the normal gastric juice is hydrochloric acid; the lactic and other acids are produced by the chronic catarrh of the stomach, and rather interfere with the healthy digestion. One of the best remedies, and often quite indispensable in dyspepsia, is hydrochloric acid, diluted in water, which I prescribe to be taken after meals. Physiological experiments have proved that one to four parts of free hydrochloric acid to one thousand parts of the gastric juice are most favorable for the digestion, while only a trace of pepsine is sufficient, and can be utilized over and over

again in the process of digestion, provided the necessary quantity of hydrochloric acid and water be added. In the great majority of dyspeptics, if not in all, there is a deficiency of hydrochloric acid in the gastric juice, which must be considered as the principal cause of the abnormal digestion. This is especially the case with anæmic persons or during the febrile condition. Manassein * experimentally demonstrated the deficiency of hydrochloric acid as being the cause of the deranged digestion during fever or anæmia. This acid, therefore, ought to be supplied to all patients affected with fevers, to anæmic persons, convalescents, and dyspeptics generally. The experiments of Manassein made by him on anæmic and feverish animals have also shown that food mixed with their gastric juice easily undergoes putrefaction if no hydrochloric acid is added. I found that common salt or substances containing salt—like oysters, for instance—are useful in dyspepsia, because salt is an antifermentative, and the chlorine of the salt during digestion is transformed into hydrochloric acid.

In the more advanced stages of the disease one of the principal indications is to check the morbid fermentation in the stomach. The experiments of Hoppe-Seyler on animals† have shown that the healthy gastric juice is one of the best antifermentative remedies, as it prevents cane-sugar from fermenting even in the presence of fungi. In treating, therefore, the gastric catarrh, our efforts must chiefly be directed towards re-establishing the secretion of the normal gastric juice. In order to arrest the fermentation, I prescribe, accord-

* Manassein : *Centralbl. f. med. Wis.* 1871. p. 853.

† Hoppe-Seyler : *Ueber den Einfluss des Zuckers auf die Verdauung und Ernährung.* *Virch. Archiv.* Bd. X., p. 144.

ing to Botkin's recommendation, chlorine water* (freshly prepared according to the German pharmacopœia), to be taken several times a day, sometimes even every hour. It not only checks the fermentation, but, being ultimately transformed into hydrochloric acid—a natural constituent part of the gastric juice—it promotes digestion. After the disappearance of the morbid fermentation in the stomach, the chlorine may be substituted with advantage by the hydrochloric acid. Of late I have tried with good results to arrest fermentation by very small doses of thymol, but further observations are requisite to corroborate my first impressions. Quite recently I have used in one case, to be mentioned hereafter, salicylic acid, with a most excellent result. In some exceptional cases, when the food stagnates unusually long in the stomach, owing to an excessive dilation and loss of contractility of the stomach, or to a strictured condition of the pyloric portion, it may occasionally become necessary to use the stomach-pump, or give Carlsbad salt one or two drachms in a large quantity of warm water, administering it before breakfast in two or three doses, at intervals of ten or fifteen minutes. Instead of Carlsbad salt, a mixture of sulphate of soda eighty-five per cent., common salt twelve or fourteen per cent., and two or three per cent. of carbonate of soda, can be used with the same, and sometimes even with better effect. A solution of these salts stimulates the contractions of the stomach and the peristaltic motions of the bowels, causing several free passages, besides washing out the stomach and exciting the secretion of normal gastric juice, and thus promoting the digestion of the food now to be introduced. I need scarcely add that, until the disappearance of the gastric catarrh and the

* Botkin : Ein Fall von Stenosis pylori, etc. Berl. kl. Woch. No. 38.

cessation of pain, some palliative may occasionally be administered—for instance, small doses of morphine, alone or in combination, with bismuth, etc.

One of the most important indications in the treatment of gastric catarrh is to reduce the dilatation of the stomach. Although with the abolition of the catarrh the stomach has a tendency to assume its normal dimensions, yet, owing to the atrophy of the muscular coat and its parietic condition, the diminution of the size of the stomach progresses very slowly, and the peristaltic contractions remain for a long time imperfect, thus causing the stagnation of food. Hence the great persistency of all the morbid symptoms, and the excessively protracted treatment, notwithstanding the employment of the most rational and efficient methods. As gastrectasia, in some degree, is always present in gastric catarrh (and also in hysterical gastralgia), I have introduced a special treatment of the dilated stomach.* It consists in producing contractions of the stomach by means of induced currents in the following manner: Both electrodes, in the shape of broad plates, are applied transversely (stabil) to the remotest portions of the dilated stomach. The current is gradually increased from minimum intensity to its maximum, and after several seconds' duration again diminished to its minimum. This is repeated fifteen to twenty times in succession, with a pause of several seconds between. Then the electrodes are applied to two other distant portions of the dilated stomach in a vertical or diagonal direction, and the current again alternately increased and diminished in the above described manner. In addition to these "fluctuating induction currents," I employ another method

* Neffel: Die Behandlung der Magenectasien beim chronischen Magenkatarrh. *Centralb. für die med. Wissensch.* 1876. No. 21.

of "tetanizing induction currents" in the following manner: while the broad electrode is kept steadily at one portion of the dilated stomach (the current being of maximum intensity), the smaller electrode is suddenly pressed against the opposite portion during several seconds, then suddenly removed, and after a short interval again suddenly applied and removed, repeating this alternate applying and removal about fifteen or twenty times in succession. The electric treatment by means of one of these methods, or of both combined, is daily resorted to until the disappearance of all the morbid symptoms. The contraction of the stomach produced by this treatment can be ascertained by percussion, and by the immediate relief it affords, although this effect is not lasting from the first, and the stomach assumes its previous size; but the tone of the muscular coat soon improves from the repeated applications of the current, and the size of the stomach becomes ultimately reduced. Under the electric treatment the costiveness invariably disappears, thus indicating the increased tone and peristaltic motion of the stomach and bowels.

After the disappearance of the gastric catarrh, there remains for some time a torpid state of the digestion, caused very probably by insufficient secretion of the gastric juice. We know from the earliest observations made by Beaumont* and others, that in fever, for instance, no gastric juice is secreted, not even by the excitation of the introduced food. The consequence is that the food remains unchanged in the stomach during twenty-four or forty-eight hours. Something similar takes place in torpidity of digestion, as can be ascertained with the stomach-pump. (Leube in

* Beaumont: Experiments and Observations on the Gastric Juice. Edinburgh. 1838. p. 99.

Ziemssen's Cyclopaedia.) Physiological researches offer different means of exciting immediate and abundant secretion of the gastric juice, the most powerful stimulus being saliva; ether, cold water, alkalies, etc., belong to this category. But, in order to promote the secretion of a healthy gastric juice in a more permanent way, we possess other remedies, like bitters, *nux vomica*, and especially small doses of rhubarb. One- or two-grain doses of rhubarb, taken several times daily during several weeks, materially improve the digestion of such patients by exciting the secretion of a normal gastric juice. Large doses of rhubarb act more on the liver and bowels, and therefore do not answer the purpose.

With the disappearance of the gastric catarrh, and possibility of taking in sufficient quantities a variety of food, the general health becomes finally restored to its normal condition.

The chronic gastric catarrh, if not entirely cured, invariably results in anæmia, which may continue as an independent disease and be the origin of some grave and fatal affection: pernicious progressive anæmia, fatty degeneration of the heart, marastic thrombosis, etc. The anæmic condition can be successfully treated with preparations of iron, which I generally prescribe to be taken with the meals (from two to five grains of iron by hydrogen, two or three times a day, with the principal meals). The iron is then readily assimilated with the food, and the patient increases in weight and assumes a healthy appearance, in a remarkably shorter time than when given in the usual way. I continue during several months the use of iron in smaller doses (two or three grains), without causing the slightest inconvenience to the digestion.

The foregoing remarks contain the general principles which I follow in the treatment of dyspepsia,

modifying them according to the peculiarities and requirements of the individual cases. From a large number of cases I offer here only a few illustrations.

Mr. B., of New York, 64 years old, was suffering from an aggravated form of dyspepsia during many years. Previous to the appearance of dyspeptic symptoms he enjoyed excellent health, and was very active. He worked hard as a builder, and, owing to his great energy and perseverance, accumulated a large fortune. With the rapid increase of means he could accordingly augment the amount and variety of food, without, however, allowing the stomach the necessary time for digestion, continuing to speculate in real estate and to work with enhanced energy and excitement. The result was dyspepsia, appearing first in a mild form, and in the course of years gradually assuming a most distressing character. He was treated by eminent physicians here and in Paris, receiving but slight and temporary relief. I examined him for the first time, July 12, 1873. He is of middle size, very well built, intelligent-looking, but exceedingly pale and emaciated. He complained of pain in the epigastrium, increasing after meals, and more especially at night, depriving him of sleep. He could take but a few articles of food, and in the smallest quantities, as even the simplest things in larger quantities invariably aggravated the suffering. He had constant eructations, and often vomiting, which somewhat relieved the pain, though for a short time. The bowels were costive, and moved only by taking cathartic pills. He felt very weak and chilly, the extremities were cold, he had dimness of vision, and occasionally tinnitus aurium. He often had attacks of vertigo, at times so severe and prolonged, and accompanied with such a sensation of faintness, that he was obliged to sit down, in order to avoid falling. On

account of this vertigo and loss of memory, he had generally to be accompanied by his son, especially when transacting business, which at last he was on the point of giving up altogether. The epigastric and hypochondric regions were bulging out, the stomach much distended with gases, and its slow peristaltic motion could be plainly observed; the skin pale and cool; the temperature in the axilla 36° C.; the pulse weak, 46; respiration slow, 10 in a minute. Nothing abnormal could be detected in the thoracic and abdominal organs, except the dilatation of the stomach; no tumor. The urine scanty, slightly alkaline, contained no albumen or sugar, but a large amount of indican (tested with muriatic acid and calcium chloride). The sediment consisted chiefly of crystals of magnesium ammonium-phosphate. The vomited masses had an acid reaction and rancid odor. When left for some time in the test-tube, presented two, or rather three layers, the upper of a grayish color and frothy, containing, besides gas-bubbles, débris of food (fat-drops, muscular fibres, etc.), and becoming more voluminous after standing. The lower layers were brownish and darker at the bottom, where, besides some residua of food (amylaceous bodies), a large quantity of sarcina and other fungi were found under the microscope. In making the patient pass the gases evolved, by eructation, through a tube, they could be made to burn with a pale flame (hydrogen). A piece of coagulated albumen, after remaining for three hours in a test-tube filled with the vomited mass, was found almost unchanged (the edges slightly rounded). The vomited masses scarcely contained a trace of hydrochloric acid (tested with argentic nitrate), but a considerable amount of butyric acid (the distillate gave with baric hydrate the characteristic crystals), and of lactic acid (by Hoppe's method). There was

no alcohol in the vomited masses, which continued to ferment in the test-tubes, as indicated by the increased volume of the upper frothy layer. By adding different antifermentative substances (permanganate of potash, borax, camphor) to separate portions of the vomited masses, it could be observed that hydrochloric acid, and still better, chlorine, decidedly checked the fermentation, and pieces of coagulated albumen would become entirely dissolved. It was evident from the chemical and microscopical examinations that the dilated stomach of the patient was the seat of fermentation; moreover, by the presence of butyric acid, hydrogen, and the absence of alcohol, it could be specified as butyric acid fermentation.

It remained yet to decide whether the fermentation was caused simply by gastric catarrh, or whether this latter, together with the fermentation, was called forth by stenosis of the pylorus; and if so, whether the stenosis was the result of a cicatrix or of a tumor within the walls of the stomach or in some adjacent organ, and merely pressing upon the pylorus. The previous history of the patient, who at no time had any symptoms of ulcer of the stomach, excluded the cicatricial stenosis, and the long duration of the disease made the existence of a malignant tumor improbable. Accordingly, I began treating the patient as if affected with simple gastric catarrh, reserving the prognosis on account of the indican in the urine. At that time I had the opportunity of observing a number of cases with cancerous deposits in the liver and other viscera, who all had a large amount of indican in the urine.* The recent researches of Jaffe † and Sena-

* Neffel: Die electrolyt. Behandl. bösart. Geschwülste. Virchow's Arch., Bd. 57, p. 242.

† Jaffe: Ueber die Ausscheidung des Indicans, etc. Virchow's Arch., Bd. 70, p. 72.

tor* have shown that indican may be present also in various other diseased conditions. I prescribed the solution of Carlsbad salt in divided doses, to be taken before breakfast (on the first day only), and strong, freshly-prepared chlorine-water every hour. I also advised him to drink pure water with and between the meals, and treated him with induced currents. Besides applying the electrodes to the stomach in the way above described, I applied them also to the hypogastric region, in order to stimulate the activity of the bowels. The electric treatment was continued daily, and so was the chlorine (every two hours). The pains, eructations, vomiting, became less intense and less frequent, and soon entirely ceased. The appetite improved from the very beginning of the treatment, though under my advice he had to increase very gradually and cautiously the amount and variety of food. With the abolition of pain he slept soundly, and his general health steadily improved. After the disappearance of the symptoms of fermentation the chlorine was left off, and hydrochloric acid prescribed, to be taken with water after each meal. A mixed diet was then allowed, with the exception of salads, sardines, fatty and other indigestible substances, and at the end of the month the patient considered himself almost well. There remained, however, a considerable degree of anæmia, general debility, and a slight weakness of digestion, occasionally calling forth some pain, and a tenderness and swelling in the epigastric region. I ordered one-grain doses of rhubarb four times a day, and continued the treatment with induced currents—at first daily, and then every other day. After two months' treatment, the general health of the patient was in an excellent condition. He felt strong, could

* Senator : Ueber Indican und Kalk Ausscheidung, etc. Berl. klin. Woch., 1877, No. 40.

walk long distances, and the sleep, digestion, and bowels became quite normal. Together with this treatment, and on account of the marked cerebral symptoms, I employed galvanization of the brain, according to my method described in the *Archiv für Psychiatrie und Nervenkrankheiten*. Bd. VIII., p. 409. The patient still continues in excellent health, and never complains of either dyspeptic or any cerebral symptoms.

I will now give an instance in which the cerebral symptoms were the principal object for treatment, while the dyspepsia to which they were due was considered of secondary importance.

Mrs. R., fifty years old, a cultivated lady of high standing in society, complained principally of a sensation of faintness, as if the head were swimming. This sensation recurred quite frequently, and at times lasted so long that she was obliged to sit down to prevent falling. After evacuation of the bowels, which almost always had to be produced artificially, she invariably felt quite faint and had to remain in a recumbent position for an hour or more, though there was no local pain in the rectum, and neither a fissure nor piles. She suffered besides from general debility, being unable to take food in sufficient quantities, because it produced pain and swelling in the epigastrium, and frequent and loud eructations. She had to exclude a great many articles of diet, as they always increased the distressing symptoms. She was therefore reduced to the simplest food in insufficient quantities. Owing to the judicious advice of her physician, and the great care the intelligent lady observed in her diet, the dyspepsia was kept in check during a great many years, her principal complaint being vertigo, headache, fainting fits, and other cerebral symptoms.

On examination, Nov. 17, 1873, I found considerable emaciation and anæmia, the stomach moderately dilated. I prescribed a full dose of calcined magnesia at bed-time, and the chlorine to be taken every two hours, and commenced the electrical treatment of the dilated stomach and torpid bowels, and the galvanization of the head. At the same time I advised her to eat a variety of articles of food in considerable quantities, and should this diet produce indigestion, to correct it by a dose of calcined magnesia. In about a fortnight I substituted hydrochloric acid for chlorine, and, as an after-treatment, prescribed small doses of rhubarb, and finally iron. The result of this treatment was entirely successful; the dyspepsia and cerebral symptoms vanished, the patient gained flesh, and her general health became excellent in every respect.

I shall briefly relate the following case, to show the beneficial effect derived from the use of salicylic acid as an antifermentative in chronic catarrh of the stomach.

Mr. M., an elderly gentleman with a good constitution, but for many years a prey to gastric catarrh, consulted me Oct. 31, 1875. The dilatation of the stomach was moderate, though the gastralgic pains were often intense. Being a resident of Massachusetts, he could only occasionally be treated for a short time, and therefore could receive but temporary relief. Two years previously he had an attack of inflammatory rheumatism, which kept him in bed for nearly two months, and since then was several times threatened with a return of the disease. I prescribed for him salicylic acid, to use in case of another attack. Last year he became ill with inflammatory rheumatism accompanied with high fever, and after suffering intense pains in the inflamed and swollen articulations.

during twenty-four hours, he decided to try the salicylic acid according to my prescription. He took eight-grain doses every hour, beginning in the morning, and towards evening the pains, swelling, redness and fever almost entirely disappeared. During several days he took salicylic acid three times a day, and found to his great amazement that with the disappearance of the inflammatory rheumatism the dyspeptic symptoms had also subsided, so that he was able to eat larger quantities and a variety of food, and gained flesh. He still continues to be in remarkable good health.

The two following varieties of acute gastric catarrh present a peculiar interest—the one often leading to the chronic form, and the other being of great diagnostic importance.

The first appears in a most acute form, and is accompanied with intense gastralgic pain. It attacks, sometimes, persons who were previously in good health, or had but very slight dyspeptic symptoms. After prolonged excesses in diet, especially when coupled with a liberal use of alcoholic liquors, the patients are attacked with nausea, vomiting, and violent pains in the stomach, which increase in the night and prevent them from sleeping; there is a complete loss of appetite, costiveness, vertigo, and headache. This condition may continue for days and weeks, and finally pass into the chronic form of gastric catarrh, if the acute attack is not radically cured. The accompanying headache and vertigo often arouse suspicion of a brain affection, were it not for the acute gastric symptoms,^f which are ascribed to inflammation of the stomach.

Gen. —, a strong and formerly very healthy gentleman, during the last five or six years indulged greatly in eating and drinking. Being very popular,

he was often called upon to attend dinners, where, besides the abundant courses, wine was partaken of in profusion, and cigars smoked. After one of such gastronomic dinners he was attacked with nausea and vomiting, followed by intense pains, which kept him awake all night. Notwithstanding the remedies employed (mostly homœopathic), the gastralgic pain, nausea, vomiting, and want of sleep continued during four weeks. I saw him for the first time, Aug. 14, 1873. Besides the above-mentioned symptoms, he complained of headache, vertigo, eructations, and costiveness. The tongue was red, the abdomen tender in the epigastric and right hypochondric regions, the stomach was distended, the liver enlarged. I prescribed Carlsbad water (Sprudel), to which was added Carlsbad salt, to be taken before breakfast, and the chlorine every hour, besides the treatment with induced currents of the stomach and bowels. All the morbid symptoms, including costiveness, disappeared in a few days, so that he could resume his business, continuing for some time the electrical treatment, the diluted hydrochloric acid, and finally only the small doses of rhubarb. A year later, owing to excesses in diet, he had a new acute attack, but was promptly relieved by the same treatment. Last year a similar attack befell him in the country, where he suffered intensely during several weeks, and recovered only after coming to New York and resuming the treatment.

I would call the attention of the profession to similar acute gastric attacks which appear periodically in persons suffering from locomotor ataxia and other affections of the spinal cord. Of late, Charcot* has described them in his admirable work under the name

* Charcot: *Leçons sur les maladies du système nerveux*. Part I., p. 32, and Part II., p. 266.

of *crises gastriques* or *gastralgiques*; but I believe that these attacks are still very little known, and not even mentioned in many text-books on diseases of the stomach, thus giving cause for great diagnostic errors. The case I here relate is not only of a theoretical interest, but of great practical importance. It teaches for the first time, so far as I know, that the periodical acute gastric attacks may exist for years before the appearance of any other symptom of locomotor ataxia. These attacks are therefore of the greatest value as an early premonitory symptom of most dangerous affections, the development of which may thus be prevented by an appropriate treatment.

Mr. C., 46 years old, came under my care February 9, 1877, affected with locomotor ataxia in a very advanced stage. He has a good constitution and is of healthy parentage, married twelve years, has three healthy children, and was formerly in good health. Before his marriage he was much addicted to drink and excessive venery, and even the first year after his marriage he continued to use alcoholic liquors until about eleven years ago, when he gave them up after an attack of intense gastralgic pains and incessant vomiting, lasting for about a week. Five weeks after his recovery he had another attack, and since then the gastric attacks appeared periodically, at first every five weeks, and afterwards oftener. During the attacks he remains for several days prostrated with intense gastralgic pain and incessant vomiting, takes no food at all, and passes sleepless nights. These very acute symptoms gradually subside in the course of a week or ten days, when his digestion becomes again normal, and remains so until the appearance of another attack. These gastric attacks were for a long time ascribed to inflammation of the stomach, and treated accordingly, but afterwards they were considered as a

simple gastralgia, and therefore more successfully managed. Several years later, in addition to the gastralgic attacks, he commenced to suffer intense neuralgic pains in the lower extremities, and after awhile also in the upper ones. They always alternated with the gastralgic pains, so that with the appearance of the gastric attack the excruciating pains in the extremities subsided. These latter were considered as rheumatism, and, after numerous remedies were tried in vain, the patient was sent to hot springs, where he remained during a summer and winter. There his locomotor co-ordination, his sight and hearing became very much impaired, and he returned home in a greatly aggravated condition. He then consulted different specialists, who all declared the disease to be a well-marked case of locomotor ataxia, though the gastric attacks were still considered as a simple gastralgia, and in no connection with the sclerosis of the cord. He is now treated by me with the galvanic current, under the influence of which the sight, hearing, and locomotion have greatly improved, the neuralgic pains have disappeared, and the gastric crises occur but seldom (once in several months), and in a very mild form.

The so-called *crises gastriques* may accompany not only locomotor ataxia, but also other diseases of the spinal cord, like central myelitis and multiple sclerosis in their earliest stages—therefore, at a time when these diseases can yet be more successfully treated. The last case proves that these gastralgic attacks may even precede the development of the spinal disease, and thus become a most valuable premonitory symptom of the approaching danger. It is evident, therefore, that the early recognition of their true nature is of the greatest practical importance. Unfortunately, they are scarcely ever recognized, and thus give rise to great diagnostic

errors. And yet these gastric attacks present some characteristic peculiarities which always make the diagnosis possible and often easy. Thus, the attacks appear periodically, during the intervals of which the digestion is quite normal or nearly so; they are accompanied or followed by the neuralgic pains of the extremities peculiar to tabetics (*douleurs fulgurantes*). During the attacks the pulse is accelerated, but the temperature remains normal. Later there is incipient impairment of sensibility, vision, and locomotor co-ordination, etc. In some exceptional cases the gastralgic attacks and a slight impairment of vision (or merely a tendency to fall when the eyes are closed) are the only symptoms of locomotor ataxia, the real nature of which may thus remain unrevealed for a long period of time.

Before dismissing the subject, I wish to make one more remark concerning the electrical treatment above described. Being employed in conjunction with other remedies, it is not evident how much of the result of the treatment has to be ascribed to its influence. The following case seems to prove that the electrical treatment is an important factor in reducing the gastrectasia, and removing the atonic condition of the bowels.

Mrs. W., æt. 43, wife of a physician in Montgomery, Ala., placed herself under my care in September, 1874, for the treatment of habitual constipation of twenty years' standing. The dyspeptic symptoms were kept in check by the judicious treatment of her husband; the dilatation of the stomach was moderate, but the costiveness baffled every treatment, and the bowels could not be moved without a cathartic. Her husband sent her to New York solely for the electrical treatment, having satisfied himself that internal remedies, of which she had already taken great quantities, did not modify the habitual costiveness. I was therefore

enabled to observe in this case the effect of the electrical treatment alone, applied in the above described manner. The result was a permanent cure of the costiveness and of the dilatation of the stomach. The anæmic condition was subsequently treated with iron.

In conclusion, I will sum up the foregoing in a few propositions.

The local effects of the chronic gastric catarrh are :

1. Fermentation in the stomach (butyric acid), with evolution of gases (inflammable) and formation of fatty acids (butyric, lactic, acetic).
2. Dilatation of the stomach (gastrectasia) and impairment of its peristaltic movements.
3. Stagnation of the food in the stomach and atonic condition of the bowels.
4. Gastralgic pains and vomiting.

The general effects of the gastric catarrh are emaciation and general anæmia from the defective nutrition of the system, especially anæmia of the brain, causing vertigo and other cerebral symptoms.

The diet of those affected with chronic gastric catarrh, though simple and easily digestible, must not be too uniform, and pure water can be used *ad libitum*.

The principal indications in treating chronic gastric catarrh are :

1. To arrest the fermentation (by antifermentatives—chlorine, thymol, salicylic acid, hydrochloric acid, etc.).
2. To treat the gastrectasia and the atonic condition of the bowels with induced currents.
3. To excite the secretion of a healthy gastric juice by the use of alkaline waters, small doses of rhubarb, bitter remedies, etc.
4. To improve the digestive properties of the gastric juice by the administration of hydrochloric acid,

not only in dyspeptics, but also in anæmic persons generally, and in those affected with fevers, and in convalescents.

It is of the utmost importance to diagnosticate early the gastralgie pains (*crises gastriques*), which sometimes accompany, or even precede, the development of locomotor ataxia and other diseases of the spinal cord.

On the early diagnosis depends the possibility of preventing or curing these organic affections of the spinal cord.

WILLIAM B. NEFFTEL, M.D.

16 EAST 48TH ST., NEW YORK.

